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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,408	07/23/2003	Nozomu Tamoto	240715US0DIV	9929

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT PAPER NUMBER

1756

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,408

Applicant(s)

TAMOTO ET AL.

Examiner

Christopher RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 7-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/985,347.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date filling.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 14 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These claims have been amended to specify that mixtures of the titanate coupling agent and the aluminum coupling agent or mixtures of a polycarbonate resin and a polyarylate resin, respectively, can be used in the manner specified. Although the individual components are disclosed the specification as filed does not disclose mixtures of these components. Consequently, the claims contain new matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 7, 9-12, 17, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato *et al.* in US Patent 5,459,005.

Kato discloses an electrophotographic light sensitive material that comprises a conductive substrate and a light sensitive layer that contains a specific binder resin comprising resins (A) and (B) and an inorganic photosensitive substance (Abstract; col. 3, l. 54-60; col. 34, l. 15-19; col. 35, l. 38-55). The resin (A) has an acid value of from 5 to 120 (col. 13, l. 20-23) and contains a polar group monomer as either a repeating unit or a terminal unit (col. 13, l. 29-38). Specifically disclosed unit (b-6) contains a carboxylic acid group and an unsaturated bond (col. 14; cols. 31-32). Other carboxylic acid-containing units are disclosed in columns 13 through 18. The resin (A) has a weight-average molecular weight of from 1000 to 20,000 (col. 6, l. 61-65). The ratio of the resin (A) to the resin (B) is given as 0.05 to 0.80/0.95 to 0.20 (col. 33, l. 33-35). The light sensitive layer also contains an inorganic photoconductive substance, such as zinc oxide or titanium oxide. Titanium oxide is disclosed in the specification (p. 41, l. 10-15) as having a pH of not less than 5. These compounds meet the requirements of an inorganic metal oxide filler in the instant claims, and are contained in an amount of 100 weight parts per 10 to 100 parts of the binder resin. The light sensitive layer also contains additives, such as hindered phenols, which are known antioxidants (col. 34, l. 60 – col. 35, l. 3; p. 67, l. 20). Charge transporting materials may also be included in the photosensitive layer (col. 34, l. 63-65).

Although the reference does not identically disclose a resin (A) having a unit given by the formula (b-6) and other carboxylic acid-containing units (e.g., (b-1) through (b-8)), the reference does teach that the resin (A) must contain polar group-containing units and discloses units of the formula (b-6) as effective as well as other carboxylic-acid units. Given this disclosure the artisan would have found it obvious to produce resin (A) with these units because these units are taught as effective in the resin (A). The artisan would also have expected the

number-average molecular weight to be the same as or less than the disclosed weight-average molecular weight because the number-average basis is always the same as or lower than the weight-average basis. Thus, the artisan would optimize the number-average weight of the resin (A) to a value near the weight-average value in order to obtain a resin with a narrow molecular weight distribution. The artisan would also have found it obvious to optimize the amount of the photoconductive substance (i.e., filler) in Kato in order to form an effective light sensitive layer. The artisan would have found it obvious to optimize the acid value of the resin (A) in order to obtain the moisture resistance and image quality desired by the reference.

This rejection considers the resin (A) as meeting the requirements of the organic compound and resin (B) or a combination of resin (A) and resin (B) as meeting the requirements of the claimed binder resin.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato *et al.* in US Patent 5,459,005 as applied to claims 1, 2, 7, 9-12, 17, and 22 above, and further in view of *Electrophotography* to Schaffert, pp. 318-329.

Kato was discussed above as disclosing zinc oxide as an effective photoconductive substance, but the size of the zinc oxide is not disclosed.

Schaffert teaches the artisan to use zinc oxide with sizes of from 0.1 to 0.5 micron size (p. 326). Zinc oxide size is disclosed by Schaffert as effecting xerographic properties of photoconductors (p. 319).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to prepare the photoconductor of Kato with zinc oxide having a size of from 0.1 to 0.5 micron because the zinc oxide must have some size in the layer of Kato and Schaffert teaches a specific zinc oxide size that is shown to have usefulness of imaging members. Given

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that the size of the oxide is taught as result effecting the artisan would optimize the size in order to obtain the best image possible.

Claims 23-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Kato *et al.* in US Patent 5,459,005 as applied to claims 1, 2, 7, 9-12, 17, and 22 above, and further in view of Mashimo *et al.* in US Patent 5,948,579

Kato was described above. This reference teaches the use of hindered phenol compounds in the photosensitive layer but does not teach the specific antioxidants of the instant claims.

Mashimo discloses a photoreceptor that contains an antioxidant in the photosensitive layer. Mashimo's antioxidant, such as a hindered phenol or a hindered amine, is used to enhance the photoreceptor properties, such as electrical characteristics and durability. One specific antioxidant is given in column 27 as compound (III-3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the antioxidant of Mashimo in place of the hindered phenol of Kato because this antioxidant is taught as giving improved electrical characteristics and durability.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 2, and 7-25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 7, 10-25, 33-50 of copending Application No. 09/985347. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed relationship of organic compound and inorganic filler in the copending claims defines an invention that falls within the scope of the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
10 June 2004


CHRISTOPHER RODEE
PRIMARY EXAMINER